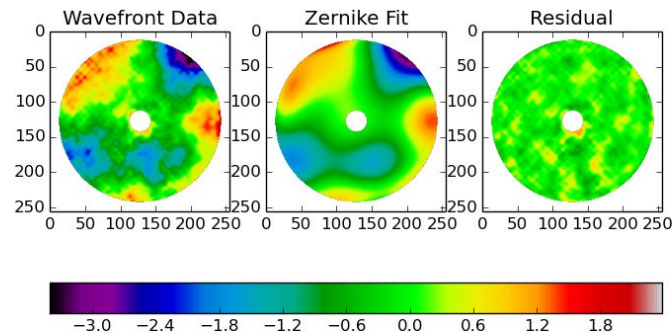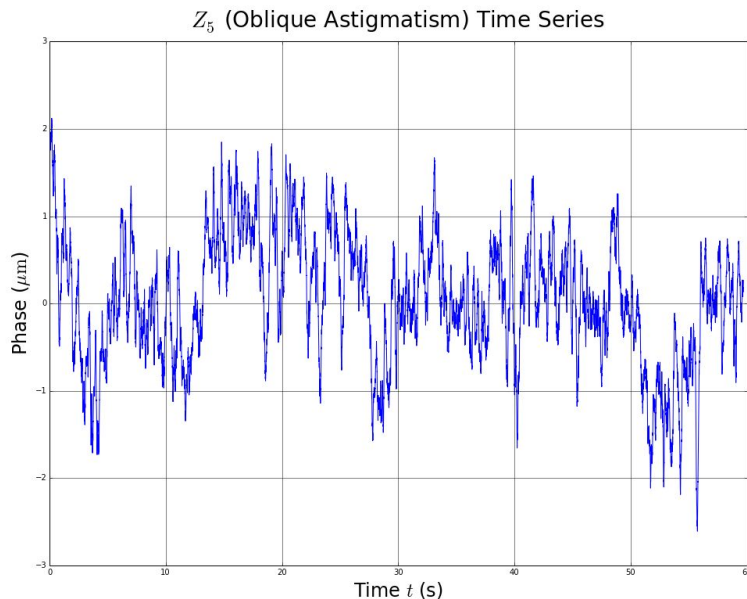# Temporal Characterization of Zernike Decomposition of Atmospheric Turbulence

Adam Snyder

How well do current Kolmogorov turbulence simulations accurately reflect the true atmospheric turbulence?

Z_5 (Oblique Astigmatism) Time Series

The Gemini Planet Imager uses extreme adaptive optics to measure instantaneous wavefront at KHz frequency.

➔ Reconstruct wavefront to obtain measurement of true atmospheric turbulence.
➔ Fit to Zernike polynomials.
➔ Calculate Zernike coefficient covariances and temporal power spectrums.